

Now if this Table be compared with the 6th Scheme, you will there see the constitution of each Colour, as to its Ingredients, or the original Colours of which it is compounded, and thence be enabled to judge of its intenseness or imperfection; which may suffice in explication of the 4th and 18th Observations, unless it be further desired to delineate the manner how the Colours appear, when the two Object-Glasses are lay'd upon one another. To do which, let there be described a large Arc of a Circle, and a straight Line which may touch that Arc, and parallel to that Tangent several occult Lines, at such distances from it, as the numbers set against the several Colours in the Table denote. For the Arc, and its Tangent, will represent the superficies of the Glasses terminating the interjacent Air; and the places where the occult Lines cut the Arc will show at what distances from the Center, or Point of contact, each Colour is reflected.

There are also other uses of this Table: For by its assistance the thickness of the Bubble in the 19th Observation was determined by the Colours which it exhibited. And so the bigness of the parts of natural Bodies may be conjectured by their Colours, as shall be hereafter shewn. Also, if two or more very thin plates be lay'd one upon another, so as to compose one plate equalling them all in thickness, the resulting Colour may be hereby determined. For instance, Mr. Hook in his *Miscrographia* observes, that a faint yellow plate of Muscovy-glass lay'd upon a blue one, constituted a very deep purple. The yellow of the first Order is a faint one, and the thickness of the plate exhibiting it, according to the Table is $4\frac{1}{2}$, to which add 9, the thick-

ness exhibiting blue of the second Order, and the sum will be $13\frac{1}{2}$, which is the thickness exhibiting the purple of the third Order.

To explain, in the next place, the Circumstances of the 2d and 3d Observations; that is, how the Rings of the Colours may (by turning the Prisms about their common Axis the contrary way to that expressed in those Observations) be converted into white and black Rings, and afterwards into Rings of Colours again, the Colours of each Ring lying now in an inverted order; it must be remembred, that those Rings of Colours are dilated by the obliquation of the rays to the Air which intercedes the Glasses, and that according to the Table in the 7th Observation, their dilatation or increase of their Diameter is most manifest and speedy when they are obliquest. Now the rays of yellow being more refracted by the first superficies of the said Air than those of red, are thereby made more oblique to the second superficies, at which they are reflected to produce the coloured Rings, and consequently the yellow Circle in each Ring will be more dilated than the red; and the excess of its dilatation will be so much the greater, by how much the greater is the obliquity of the rays, until at last it become of equal extent with the red of the same Ring. And for the same reason the green, blue and violet, will be also so much dilated by the still greater obliquity of their rays, as to become all very nearly of equal extent with the red, that is, equally distant from the center of the Rings. And then all the Colours of the same Ring must be coincident, and by their mixture exhibit a white Ring. And these white Rings must have black and dark Rings between them, because they do not spread